

REMARKS

Claims 1 and 3 - 35 are currently in this case.

In the outstanding non-final Office Action the Examiner allowed claims 23 – 35, and stated that claims 9, 10, 21, and 22 would be allowable if rewritten in independent form, but were otherwise objected to. This indication of allowable subject matter is acknowledged with appreciation. Also in the Office Action, the Examiner rejected independent claim 1, claims 3 and 4 dependent therefrom, independent claim 5, and claims 6 – 8 and 11 – 20 dependent therefrom as being anticipated by newly cited U.S. Patent No. 6,975,587 to Adamski et al., filed August 25, 2000 and patented December 13, 2005 (hereinafter referred to as “the Adamski reference”).

By this Response, applicants traverse the Examiner’s rejection. Reconsideration and withdrawal of the rejections are respectfully requested.

For a reference to anticipate an invention, all of the elements of that invention must be present in the reference. The test for anticipation under section 102 is whether each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP §2131. The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP §2131.

Applicants submit that all of the features of the presently claimed invention are not disclosed, taught or suggested in the cited single reference.

Specifically, independent claim 1 of the present application teaches a router system having a

plurality of facility interface circuit cards and line cards, and comprising:

- (a) “a redundant pair of said facility interface circuit cards,”
- (b) “connected in parallel to each said line card,”
- (c) “ such that one and only one said line cards is connected to each of said paired redundant interface circuit cards.”

Similarly, independent claim 5 of the present application teaches a router system wherein

- (a) “paired duplicate interface circuit cards” are
- (b) “each connected in parallel with
- (c) one and only one said line card,”

As a non-limiting example of an apparatus on which claim 1 reads as an input, Applicant draws the Examiner’s attention to Figure 1A of the present application. Figure 1A shows:

- (a) a redundant pair of facility interface circuit cards (11-0W and 11-0P)
- (b) connected in parallel (by connections 103-0W and the parallel connection coming from 11-0P) to a line card (13-0), wherein
- (c) One and only one line card (13-0) is connected to each of said paired redundant interface circuit cards (11-0W and 11-0P).

Similarly, as another non-limiting example of an apparatus on which claim 1 reads as an output, Applicant draws the Examiner’s attention to Figure 1C of the present application. Figure 1C shows:

- (a) a redundant pair of facility interface circuit cards (12-0W and 12-0P)

(b) connected in parallel (by connections 104-0W and the parallel connection going to 12-0P) to a line card (18-0), wherein

(c) One and only one line card (18-0) is connected to each of said paired redundant interface circuit cards (12-0W and 12-0P).

In the first (input) example, as set forth in Claim 1, there is but a single channel of data packets delivered redundantly to pairs of facility interface circuit cards, which are both individually connected to a single line card. In the second (output) example, also as set forth in Claim 1, there is but a single channel of data packets delivered to a single line card, which then delivers the data packets redundantly to pairs of facility interface circuit cards across individual connections.

The same relationships are true for all of the other channels of data packets on both the input side (11-1W and 11-1P through 11-4W and 11-4P in Figure 1A) and the output side (12-1W and 12-1P through 12-4W and 12-4P in Figure 1C).

At page 2 of the outstanding office action, the Examiner incorrectly states that the Adamski reference (Figures 2 and 3 and col. 3 lines 49-67) discloses a redundant pair of facility interface circuit cards connected in parallel to each line card, such that one and only one line card is connected to each of said paired redundant interface circuit cards.

Applicants traverse the Examiner's characterization of the Adamski reference.

The Adamski reference is drawn to a router in which one communication channel (the "protection" channel) is associated with a plurality of other communication channels (the "working" channels). As seen in Figures 2 and 3, each communication channel (chan. 1, chan. 2,

chan 3.) is made up of two physical cards (16) and two line cards (14), each physical card – line card pair being disposed at a separate router (10). The Examiner apparently likens the physical cards to the claimed facility interface circuit cards. However, the Adamski reference discloses only a redundant *channel*, and not a redundant *physical card/facility interface circuit card*.

In contradistinction to Claim 1:

(a) The Adamski reference does not show the claimed feature of redundant physical cards. Each communication channel in the Adamski reference comprises one physical card which transmits packets and another physical card which receives packets. (See Figures 2 and 3, and col. 2 line 10 – 13) In Adamski, no two physical cards receive the same packets at the same time. In contrast, see the Present Application, Summary of the Invention, para. 1: “For each line card...at least one redundant port interface is provided. Identical input packets are transmitted via these redundant port interfaces.” See also the Present Application, Detailed Description, para. 1: “Protect and working facility module cards 11-0P and 11-0W independently receive duplicate input [and] perform essentially identical functions on the information.”

(b) The Adamski reference does not show the claimed feature of two paired physical cards connected in parallel to one line card. In the Adamski reference, one physical card is connected *in serial* to one and only one line card. (*id.*, col. 3, lines 27 – 30; Figures 2 and 3)

(c) The Adamski reference does not show the claimed feature of a “line card connected to each of said paired redundant interface circuit cards.” In the Adamski reference, each line card is connected to an *unpaired* physical card (*id.*, Figures 2 and 3).

As an example of a distinct advantage provided by these paired redundant interface circuit cards, the Present Application teaches:

“if two peer routers in a network are connected by a trunk between them, and a failure occurs on a working facility card and a protection switch occurs from the working facility card to a duplicate protection facility card, then packets that flow between the two routers continue to flow uninterrupted from exactly the same previous ports on one router to exactly the same previous ports on the second router. *The packets continue to use the same IP addresses as existed prior to the switching.* In prior solutions, by contrast, the packets would have to be routed around the failed working facility card and around the usable port on the peer router to a different usable port on the source router and a different port on the peer router. *IP packet addresses would have to be changed.*”

Present Application, Summary of the Invention, para. 4, emphasis added.

As the Adamski reference lacks paired redundant interface cards, it cannot perform this function. Applicant draws the Examiner’s attention to the very passage cited by the Examiner in the rejection of Claims 1 and 5, which recites that an “externally received message on working channel C bound for working channel B is bridged to the protection channel for working channel B.” Immediately after the Examiner’s cited section, the Adamski reference explains that “[b]ridging is accomplished by *addressing the externally received message with a slot corresponding to the protection line card in addition to the working line card which was originally addressed.*” (col. 3 line 67 – col. 4 line 3, emphasis added). Applicant submits that the Adamski reference is drawn to protection of an complete data channel precisely by way of readdressing data packets, and is thus incapable of protection of data within a single data channel as claimed in independent claims 1 and 5.

Accordingly, as the Adamski reference fails to disclose, teach, or suggest “a redundant pair of said facility interface circuit cards connected in parallel to each said line card, such that one and only one said line cards is connected to each of said paired redundant interface circuit cards,” Applicants submit that the Adamski reference does not anticipate the presently claimed invention as set forth in independent claim 1, and in claims 3 and 4 dependent therefrom.

Similarly, as the Adamski reference does not disclose, teach, or suggest a router system wherein “paired duplicate interface circuit cards are each connected in parallel with one and only one said line card,” Applicants submit that the Adamski reference does not anticipate the presently claimed invention as set forth in independent claim 5, and in claims 6 – 8 and 11 – 20 dependent therefrom.

Applicants submit that independent claims 1 and 5 are in condition for allowance.

Applicants submit that claims 3, 4, 6 – 8, and 11 – 20 are not only allowable for their dependency from these independent claims, which Applicant submits are in condition for allowance, but are also patentable over the Adamski reference as they contain various independently patentable features not found in the Adamski reference. As non-limiting examples, the Examiner’s is asked to note the “paired redundant interface cards...*configured to operate in a one-for-one protection mode*” (claim 3, emphasis added) and the “*folded configuration*” of a “first router system” such that “paired duplicate interface circuit cards contain[] duplex input and output interface ports” (claim 6, emphasis added).

Reconsideration and withdrawal of the rejections under 35 U.S.C. 102 are requested.

Further, reconsideration and withdrawal of the objections to claims 9, 10, 21, and 22 are requested, as these claims depend from independent claims which Applicants submit are in condition for allowance.

In addition, it is noted that the effective date of the Adamski reference is only about two months prior to the Applicants' filing date. Therefore, if appropriate, Applicants reserve the right to later file a declaration under 37 CFR 1.131 antedating the Adamski reference.

It is submitted that all claims currently in this case should now be in condition for allowance and such action is respectfully requested. Should the Examiner not consider that all claims are now in condition for allowance or have any questions or other changes necessary to advance the prosecution of this case, he is requested to telephone the undersigned.

Respectfully submitted,

By:



Harold L. Novick
Registration No. 26,011
Matthew J. Moffa
Registration No. 58,860

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NATH & ASSOCIATES PLLC
112 South West Street
Alexandria, VA 22314
Tel. 703-548-6284
Fax. 703-683-8396
Email: hnovick@novick.com

HLN/mjm